APRIL/MAY 2024

CBT61 — PLANT AND ANIMAL BIOTECHNOLOGY

Time : Three hours Maximum : 75 marks

Shanmuga Industries Arts & Science College T.V.Malai

SECTION A — (10 × 2 = 20 marks)

Answer ALL questions.

1. List the basic requirements of Plant Tissue Culture.
2. Extend IAA, and mention its role in plant growth.
3. Define Callus.
4. Summarize few points about synthetic seeds.
5. What is primary cell culture?
6. Extend DMEM.
7. What is gene therapy?
8. Explain any two applications of transgenic animals.
9. How to perform pregnancy diagnosis?
10. Show any two cryoprotectants.

SECTION B — (5 × 5 = 25 marks)

Answer ALL questions.

11. (a) Organize the steps involved in the preparation of suitable explants.

Or

(b) List out the plant hormones and growth regulators, along with its functions.

12. (a) How anther and ovary culture are applied for haploid plant production?

Or

(b) Examine about cytoplasmic male sterility.

13. (a) Identify the principles of sterile techniques and cell propagation applied in animal cell culture laboratory.

Or

(b) Examine the procedure of cytotoxicity assay in animal cell culture.

14. (a) Analyze about transgenic fish.

Or

(b) Examine about molecular diagnosis of genetic disorder.

15. (a) Explain artificial insemination.

Or

(b) List out the steps involved in cryopreservation of embryo.

SECTION C — (3 × 10 = 30 marks)

Answer any THREE questions.

16. Explain the preparation of plant tissue culture media in detail with the components.

17. Explain the steps involved in genetic engineering of delayed fruit ripening in plants.

18. Explain the preservation and characterization of animal cells.

19. Discuss about gene therapy and its types.

20. Elaborate on invitro fertilization.

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